

WHAT IS CLAIMED IS:

1. A content retrieval device having a multi-call function allowing use of a plurality of connection methods for retrieving content data from a server via a communication network under a suitable connection method, the content retrieval device
5 comprising:

a browser section for generating a retrieval request specifying locational information of content data to be retrieved presently;

a protocol control section for determining a connection
10 method for the content data specified by said browser section prior to reception of the content data; and

a communication control section for receiving the content data specified by said browser section from said server under the connection method determined by said protocol control
15 section.

2. The content retrieval device according to claim 1, wherein content data includes locational information of each of sub-content data linked to the content data and connection method information indicating a connection method suitable for each of
5 the sub-content data,

said browser section extracts the locational information and the connection method information of each of the

sub-content data by analyzing the received content data, and then
generates a retrieval request specifying the locational
10 information of sub-content data to be retrieved presently, and
said protocol control section determines a suitable
connection method for reception of the sub-content data specified
by said browser section based on the connection method information
extracted by said browser section.

3. The content retrieval device according to claim 1,
wherein content data includes locational information and a file
attribute of each of sub-content data linked to the content data,
the content retrieval device further comprises a
5 connection information management section for managing a
connection information table including description of a suitable
connection method in association with the file attribute of the
content data,

said browser section extracts a set of the locational
10 information and the file attribute of each of the sub-content data
by analyzing the received content data and holds the set as
internal information, and then generates a retrieval request
specifying the locational information of sub-content data to be
retrieved presently, and

15 said protocol control section determines a suitable
connection method by, upon reception of the retrieval request
generated by said browser section, receiving the file attribute

pairing with the locational information specified in the
retrieval request from said browser section and then extracting
20 the suitable connection method pairing with the file attribute
received from said browser section from said connection
information management section.

4. The content retrieval device according to claim 1,
wherein locational information is allocated to content data for
indicating a storage location of the content data in said server,
part of the locational information representing a feature of the
5 content data,

the content retrieval device further comprises a
connection information management section for managing a
connection information table including description of a suitable
connection method in association with the feature of the content
10 data, and

said protocol control section determines a suitable
connection method by, upon reception of the retrieval request
generated by said browser section, receiving the suitable
connection method pairing with the part of the locational
15 information included in the retrieval request from said
connection information management section.

5. The content retrieval device according to claim 1,
wherein said server is capable of transmitting a content header

including a file attribute of content data, as well as the content data,

5 the content retrieval device further comprises a connection information management section for managing a connection information table including description of a suitable connection method in association with the file attribute of the content data,

10 said browser section generates a first retrieval request specifying locational information of content data to be retrieved presently,

 upon reception of the first retrieval request generated by said browser section, said protocol control section generates a
15 second retrieval request for retrieving a content header of the content data specified in the first retrieval request,

 said communication control section receives the content header specified in the second retrieval request generated by said protocol control section, and

20 said protocol control section determines a suitable connection method by extracting the suitable connection method pairing with the file attribute included in the content header received by said communication control section from said connection information management section.

6. A content retrieval method for retrieving content data from a server via a communication network under a suitable

connection method among a plurality of connection methods by use of a multi-call function, the method comprising the steps of:

5 generating a content retrieval request specifying locational information of content data to be retrieved presently; determining a suitable connection method prior to reception of the content data specified by said step of generating a content retrieval request; and

10 receiving the content data specified by said step of generating a content retrieval request from said server under the connection method determined by said step of determining a suitable connection method.

7. The content retrieval method according to claim 6, wherein content data includes locational information of each of sub-content data linked to the content data and a connection method suitable for each of the sub-content data,

5 said step of generating a content retrieval request extracts the locational information and the connection method information of each of the sub-content data by analyzing the received content data, and then generates a content retrieval request specifying the locational information of sub-content data
10 to be retrieved presently, and

 said step of determining a suitable connection method determines a suitable connection method based on the connection method information extracted by said step of generating a content

retrieval request.

8. The content retrieval method according to claim 6, wherein the content data includes locational information and a file attribute of each of sub-content data linked to the content data,

5 a connection information table including description of a suitable connection method in association with the file attribute of the content data is managed in advance,

said step of generating a content retrieval request extracts a set of the locational information and the file
10 attribute of each of the sub-content data by analyzing the received content data and holds the set as internal information, and then generates a content retrieval request specifying the locational information of sub-content data to be retrieved presently, and

15 said step of determining a suitable connection method determines a suitable connection method by, upon reception of the content retrieval request generated by said step of generating a content retrieval request, receiving the file attribute pairing with the locational information specified in the content
20 retrieval request from said step of generating a content retrieval request, and then extracting the suitable connection method pairing with the file attribute received from said step of generating a content retrieval request from said connection

information table.

9. The content retrieval method according to claim 6,
wherein locational information is allocated to content data for
indicating a storage location of the content data in said server,
part of the locational information representing a feature of the
5 content data,

a connection information table including description
of a suitable connection method in association with the feature
of the content data is managed in advance, and

said step of determining a suitable connection method
10 determines a suitable connection method by, upon reception of the
content retrieval request generated by said step of generating
a content retrieval request, extracting the suitable connection
method pairing with the part of the locational information
included in the content retrieval request from said connection
15 information table.

10. The content retrieval method according to claim 6,
wherein said server is capable of transmitting a content header
including a file attribute of content data, as well as the content
data,

5 a connection information table including description
of a suitable connection method in association with the file
attribute of the content data is managed in advance,

the method further comprises the steps of:

upon reception of the content retrieval
10 request generated by said step of generating a content retrieval
request, generating a header retrieval request for retrieving a
content header of the content data specified in the content
retrieval request; and

receiving the content header specified in the header
15 retrieval request generated by the step of generating a header
retrieval request from said server, and

said step of determining a suitable connection method
determines a suitable connection method by extracting the
suitable connection method pairing with the file attribute
20 included in the content header received by said step of receiving
the content header from said connection information table.

11. A program-recorded recording medium on which recorded
is a program for retrieving content data from a server via a
communication network under a suitable connection method among
a plurality of connection methods by use of a multi-call function,
5 the program comprising the steps of:

generating a content retrieval request specifying
locational information of content data to be retrieved presently;

determining a suitable connection method prior to
reception of the content data specified by said step of generating
10 a content retrieval request; and

receiving the content data specified by said step of generating a content retrieval request from said server under the connection method determined by said step of determining a suitable connection method.

12. A program-recorded recording medium according to claim 11, wherein content data includes locational information of each of sub-content data linked to the content data and a connection method suitable for each of the sub-content data,

5 said step of generating a content retrieval request extracts the locational information and the connection method information of each of the sub-content data by analyzing the received content data, and then generates a content retrieval request specifying locational information of sub-content data to
10 be retrieved presently, and

 said step of determining a suitable connection method determines a suitable connection method based on the connection method information extracted by said step of generating a content retrieval request.

13. A program-recorded recording medium according to claim 11, wherein the content data includes locational information and a file attribute of each of sub-content data linked to the content data,

5 a connection information table including description

of a suitable connection method in association with the file attribute of the content data is managed in advance,

10 said step of generating a content retrieval request extracts a set of the locational information and the file attribute of each of the sub-content data by analyzing the received content data and holds the set as internal information, and then generates a content retrieval request specifying the locational information of sub-content data to be retrieved presently, and

15 said step of determining a suitable connection method determines a suitable connection method by, upon reception of the content retrieval request generated by said step of generating a content retrieval request, receiving the file attribute pairing with the locational information specified in the content retrieval request from said step of generating a content retrieval request, and then extracting the suitable connection method pairing with the file attribute received from said step of
20 generating a content retrieval request from said connection information table.

14. A program-recorded recording medium according to claim 11, wherein locational information is allocated to content data for indicating a storage location of the content data in said server, part of the locational information representing a feature
5 of the content data,

a connection information table including description of a suitable connection method in association with the feature of the content data is managed in advance, and

said step of determining a suitable connection method
10 determines a suitable connection method by, upon reception of the content retrieval request generated by said step of generating a content retrieval request, extracting the suitable connection method pairing with the part of the locational information included in the content retrieval request from said connection
15 information table.

15. A program-recorded recording medium according to claim 11, wherein said server is capable of transmitting a content header including a file attribute of content data, as well as the content data,

5 a connection information table including description of a suitable connection method in association with the file attribute of the content data is managed in advance,

the method further comprises the steps of:

upon reception of the content retrieval
10 request generated by said step of generating a content retrieval request, generating a header retrieval request for retrieving a content header of the content data specified in the content retrieval request; and

receiving the content header specified in the header

15 retrieval request generated by the step of generating a header
retrieval request from said server, and

said step of determining a suitable connection method
determines a suitable connection method by extracting the
suitable connection method pairing with the file attribute
20 included in the content header received by said step of receiving
the content header from said connection information table.

16. A program for retrieving content data from a server
via a communication network under a suitable connection method
among a plurality of connection methods by use of a multi-call
function, the program comprising the steps of:

5 generating a content retrieval request specifying
locational information of content data to be retrieved presently;

determining a suitable connection method prior to
reception of the content data specified by said step of generating
a content retrieval request; and

10 receiving the content data specified by said step of
generating a content retrieval request from said server under the
connection method determined by said step of determining a
suitable connection method.

17. A program according to claim 16, wherein content data
includes locational information of each of sub-content data
linked to the content data and a connection method suitable for

each of the sub-content data,

5 said step of generating a content retrieval request
extracts the locational information and the connection method
information of each of the sub-content data by analyzing the
received content data, and then generates a content retrieval
request specifying locational information of sub-content data to
10 be retrieved presently, and

 said step of determining a suitable connection method
determines a suitable connection method based on the connection
method information extracted by said step of generating a content
retrieval request.

18. A program according to claim 16, wherein the content
data includes locational information and a file attribute of each
of sub-content data linked to the content data,

 a connection information table including description
5 of a suitable connection method in association with the file
attribute of the content data is managed in advance,

 said step of generating a content retrieval request
extracts a set of the locational information and the file
attribute of each of the sub-content data by analyzing the
10 received content data and holds the set as internal information,
and then generates a content retrieval request specifying the
locational information of sub-content data to be retrieved
presently, and

said step of determining a suitable connection method
 15 determines a suitable connection method by, upon reception of the
 content retrieval request generated by said step of generating
 a content retrieval request, receiving the file attribute pairing
 with the locational information specified in the content
 retrieval request from said step of generating a content retrieval
 20 request, and then extracting the suitable connection method
 pairing with the file attribute received from said step of
 generating a content retrieval request from said connection
 information table.

19. A program according to claim 16, wherein locational
 information is allocated to content data for indicating a storage
 location of the content data in said server, part of the locational
 information representing a feature of the content data,

5 a connection information table including description
 of a suitable connection method in association with the feature
 of the content data is managed in advance, and

said step of determining a suitable connection method
 determines a suitable connection method by, upon reception of the
 10 content retrieval request generated by said step of generating
 a content retrieval request, extracting the suitable connection
 method pairing with the part of the locational information
 included in the content retrieval request from said connection
 information table.

20. A program according to claim 16, wherein said server is capable of transmitting a content header including a file attribute of content data, as well as the content data,

a connection information table including description
5 of a suitable connection method in association with the file attribute of the content data is managed in advance,

the method further comprises the steps of:

upon reception of the content retrieval
request generated by said step of generating a content retrieval
10 request, generating a header retrieval request for retrieving a content header of the content data specified in the content retrieval request; and

receiving the content header specified in the header
retrieval request generated by the step of generating a header
15 retrieval request from said server, and

said step of determining a suitable connection method
determines a suitable connection method by extracting the
suitable connection method pairing with the file attribute
included in the content header received by said step of receiving
20 the content header from said connection information table.